



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,948	10/28/2005	Peter Frank Ekhart	0470-050777	7559

EXAMINER	
BLAND, LAYLA D	

ART UNIT	PAPER NUMBER
1623	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

7590 09/07/2007  
Webb Ziesenheim Logsdon Orkin & Hanson  
436 Seventh Avenue  
700 Koppers Building  
Pittsburgh, PA 15219-1818

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/526,948	Applicant(s) EKHART ET AL.	
	Examiner Layla Bland	Art Unit 1623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This office action is in response to applicant's amendment submitted July 16, 2007, wherein claims 12 and 13 are amended and new claims 30-32 are presented. This application claims priority to PCT/NL03/00625, September 9, 2003 and European application 02078684.4, September 9, 2002. Claims 12-32 are currently pending and are examined on the merits herein.

Applicant's amendment submitted July 16, 2007, with respect to the objections to the specification, has been fully considered and found to be persuasive to remove the objections. Therefore the objections are withdrawn.

Applicant's amendment submitted July 16, 2007, with respect to the rejection of claim 12 under 35 USC 102(b) as anticipated by Kaufman (US 5,605,893, February 25, 1997) has been fully considered and found to be persuasive to remove the rejection, as the claim as amended is drawn to a liquid composition. Therefore the rejection is withdrawn.

The following new or modified rejections are necessitated by applicant's amendment submitted on July 16, 2007.

Applicant is advised that should claim 12 be found allowable, claim 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

Art Unit: 1623

claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Because claim 12, as amended, is drawn to a liquid composition, claim 29 is a duplicate of claim 12.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-23 and 30-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation, "having a reduced digestibility of less than 30% of the digestibility of native starch." It is unclear what "native starch" encompasses, as starches from different sources, (corn, wheat, potato, tapioca, rice, for example) are not identical.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 and 25-32 are rejected under 35 U.S.C. 103(a) as being anticipated by Kaufman (US 5,605,893, February 25, 1997, of record) in view of Heber, et al. (Journal of the American College of Nutrition, Vol. 13, Issue 6, 608-614, of record).

Kaufman teaches a food composition in the form of a bar comprising 17-24 grams of total carbohydrates, 5-20 grams of protein, and 3-7 grams of fat for a total of about 20 to 50 grams. The bar contains 5-15 grams of slowly absorbed carbohydrate in the form of uncooked cornstarch, which generally comprises about 73% amylopectin by weight [column 3, lines 28-39]. For a 50g bar containing 5g of cornstarch, amylopectin is 7.4% by weight and protein is 10%-40% by weight. Amylopectin is a branched (4-5%)  $\alpha$ -glucan with  $M_w=10^7$ - $10^9$  (Walker, "Polysaccharide Association Structures in Food," Marcel Dekker, 1998, page 63). The composition can also be given in the form of a milkshake [claim 7].

Kaufman does not exemplify a liquid food composition.

Heber, et al. teach significant weight loss observed with Ultra Slim-Fast® [abstract].

One skilled in the art would be motivated to administer the composition of Kaufman in a liquid form because liquid diets have been shown to be successful.

The degree of branching is not seen to be a critical factor as discussed above; therefore, absent any evidence of criticality or unexpected results, the recited degrees of branching are obvious variants of the method taught by Kaufman. The phrase "having a reduced digestibility of less than 30% of the digestibility of native starch" is not given patentable weight because it does not limit the alpha-glucan itself but rather how it

is digested after being eaten and merely states the result of the limitations in the claims, which adds nothing to the patentability of the claims.

The following rejections of record in the previous office action are maintained:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (US 5,605,893, February 25, 1997, of record) in view of Okuno, et al. (Diabetes Res. Clin. Pract. 1985 Dec; 1(4):221-5, of record) and further in view of Barbier, et al. (US2002/0035089 A1, March 21, 2002, of record).

Claim 13 is drawn to a method of inducing satiety and satiation in a person in need thereof, comprising administering an  $\alpha$ -glucan having an average molar weight of at least  $10^5$  Da. Claims 14-16 further limit claim 13 as to the degree of branching and molar weight of the glucan. Claim 17 stipulates the glucan must contain  $\alpha$  (1,4) and  $\alpha$  (1,6) linkages. Claim 18 is drawn to the method of claim 13, wherein the  $\alpha$ -glucan is non-ionic. Claim 19 is drawn to the method of claim 13, wherein the  $\alpha$ -glucan is produced by enzymatic glucosyl transfer from sucrose. Claims 21 and 22 further limit

claim 13 such that the  $\alpha$ -glucan is combined with a protein, specifically a processed milk or soy protein.

Kaufman teaches a method of treating diabetic patients to prevent hypoglycemic episodes by administering a food composition comprising amylopectin. Amylopectin has a molar weight of  $10^7$ - $10^9$  as mentioned before, has  $\alpha$ -(1,4) and  $\alpha$ -(1,6) linkages, and is nonionic. Kaufman also teaches a source of protein in the food composition can be soy protein [column 3, line 53]. Kaufman does not explicitly teach a method of inducing satiety and satiation.

One skilled in the art would appreciate that the treatment for hypoglycemia which comprises administering a food bar to a patient would also induce satiety in the patient, especially if it was done repeatedly as recited in claim 13. Okuno, et al. teach hunger as a symptom of hypoglycemia [abstract].

Furthermore, Barbier, et al. teach the use of a composition comprising starch [claim 4] for the treatment of obesity [claim 28].

The degree of branching and method of preparation of the  $\alpha$ -glucan is not seen to be a critical factor. The instant method utilizes  $\alpha$ -glucan as a material in the method. Unless the process of preparing the  $\alpha$ -glucan changes its structure, then it does not further limit the instant invention. The data given in Table 2 of the specification suggests that a lower degree of branching (glycogen, 8%) gives a greater increase in viscosity than a higher degree of branching (reuteran, 16%). Although only two examples of branched glucans are given, and therefore the data is not sufficient to establish a firm relationship between degree of branching and viscosity increase at lower pH, it

suggests that amylopectin (4-5% branching) might show an even greater increase in viscosity.

The phrase "having a reduced digestibility of less than 30% of the digestibility of native starch" is not given patentable weight because it is not considered to be an active method step and simply expresses the intended result of a process step positively recited, which adds nothing to the patentability of the claims.

### ***Response to Arguments***

Applicant's arguments filed July 16, 2007 have been fully considered but they are not persuasive.

Applicants argue that amylopectin is the more digestible component of starch and does not have a reduced digestibility over native starch, no factual evidence of this is presented, nor is "native starch" defined. Applicants also argue that the claims, as amended, are drawn to alpha-glucans of reduced digestibility and that the references do not teach or suggest the use of an alpha-glucan of reduced digestibility. However, for the reasons set forth above, the addition of "having a reduced digestibility of less than 30% of the digestibility of native starch" to the claims does not change the scope of the claims.

Applicants also argue that a poorly digestible branched alpha-glucan is not considered food because it does not induce satiety by producing a feeling of being fed. However, the examiner maintains that the repeated administration of any composition would eventually induce satiety in a person, regardless of whether it was poorly



digestible or not. Furthermore, the phrase "having a reduced digestibility of less than 30% of the digestibility of native starch," does not further limit the claims, as discussed above.

Applicants also argue that Heber does not clearly state what type of food is actually administered to a subject. It was assumed that one of ordinary skill in the art at the time the invention was made would have been aware that Ultra Slim-Fast® is a meal replacement product [Heber, page 608], especially considering that the instant specification makes reference to Slimfast (page 1, line 22, page 2, line 33).

### ***Conclusion***

No claims are allowed in this application.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Layla Bland whose telephone number is (571) 272-9572. The examiner can normally be reached on M-R 8:00AM-5:00PM UST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on (571) 272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Layla Bland  
Patent Examiner  
Art Unit 1623  
August 30, 2007

Shaojia Anna Jiang

  
Supervisory Patent Examiner  
Art Unit 1623